

## CLAIMS

What I claim as my invention is:

1. An integrated relational database data editing system providing the visual environment, graphic user interfaces and tools in the client computer to remotely access a server computer that contains a relational database and to manage and edit the database data contents through either the intranet or the Internet, and said system includes the following mechanisms and characters:

(i) said client computer retrieves the database data from the remote server computer database, modify, update, input, output the data and then sends the data back to the original database; and

(ii) said client computer directly edit and modify the database data without writing detail computer language codes in an efficient and easy-to-use manner; and

(iii) said client computer directly edit and modify the large text data type and large binary data type by using a plurality of commercial text and multimedia data editors installed on the client computer; and

(iv) said database data editing system implements the user authentication and access control mechanisms.

2. The database data editing system of claim 1 contains the well-defined graphic user interfaces and tools that displays a database table or a subset data of a table and has the following novel characters:

(i) said database data on each table cell is defaulted as read only; and

(ii) said database small text data on each table cell is directly edited when single-clicked by the mouse; and

(iii) said table cell contains a small icon as a place holder for the large text data type or large binary data type; and

(iv) said commercial data editor is popped up from the local client computer when double-clicked the small icon of a table cell by the mouse and the database data is downloaded into the data editor from the remote database and is sent back to the original database when data editing is completed; and

(v) said data editor is either a text editor or a multimedia editor depending on the data type inside the table cell.

3. The database data editing system of claim 1 contains a Database Data Manager in said client computer comprising a Header Panel and a Detail Panel, which provides a user-friendly visual environment and tools to manage and edit the database data contents.

5 4. The Header Panel of the Database Data Manager of Claim 3 contains a list of databases and database tables for each database, and

- (i) a Detail Panel is popped up when double-clicked the database name; and
- (ii) a database table is popped up when double-clicked the table name.

5. The Detail Panel of Claims 3 & 4 further contains:

10 (i) a DB Designer for creating and modifying the database; and  
(ii) an ER Designer for editing and displaying the entity relationships of the database tables; and

(iii) a Table Designer for designing the database tables; and

(iv) a DB Schema for designing and displaying the database data structure and  
15 micros; and

(v) a Data Filter for selecting a set of data from one or more database tables;  
and

(vi) a SQL Console for writing and executing the SQL codes.

6. The client/server version of the integrated database data editing system of  
20 claim 1 is deployed and run on the intranet.

7. The web version of the database data editing system of claim 1 is deployed and run on the Internet and also the intranet, and further has more advantages to implement the security features by using the Public Key Infrastructure (PKI) and Secure Socket Layer (SSL).